**Software Requirements Specification (SRS)**

**1. Introduction**

**1.1 Purpose**

The League Management System (LMS) is a web-based application designed to facilitate the organization and management of sports leagues. The system provides an Admin interface to manage players, schedule matches, and update scores. The points table and team rankings are automatically updated based on match results, reducing manual effort and ensuring efficient league operations. Team Manager interface updates, remove players and create teams as per the requirements. User interface is used to view the points table, match details and player statistics.

**1.2 Scope**

The LMS provides a structured platform for managing sports leagues efficiently. It allows Admins to oversee player management, match scheduling, and result updates. Team Managers can create and manage teams, ensuring smooth team operations. The system also provides users with easy access to league standings and match details.

The LMS will be implemented as a web-based application, leveraging HTML, CSS, and JavaScript for the frontend to provide an intuitive interface. The backend, powered by Node.js with Express.js, handles business logic and database interactions. PostgreSQL will store structured data, ensuring seamless updates to league standings and player statistics. This system ensures automation of rankings and points tables, reducing administrative workload and enhancing efficiency.

**1.3 Definitions, Acronyms, and Abbreviations**

* LMS: League Management System
* Admin: System administrator responsible for managing the league
* PostgreSQL: Relational database management system (RDBMS)
* VS Code: Visual Studio Code, an IDE for development

**1.4 References**

* Project specifications provided
* PostgreSQL official documentation
* Node.js and Express.js official documentation

**1.5 Overview**

This document outlines the functional and non-functional requirements of the LMS, including system modules, database entities, and software requirements.

**2. Overall Description**

**2.1 Product Perspective**

The LMS functions as an independent web application that integrates a frontend, backend, and database to facilitate smooth sports league management. It streamlines operations by automating match scheduling, score updates, and rankings, ensuring minimal manual effort. The system operates as a centralized platform accessible to admins, team managers, and users for efficient league coordination and real-time data tracking.

**2.2 Product Functions**

The LMS provides a range of essential functions to simplify sports league management. Admins can efficiently manage players by adding, updating, or removing them. They also have control over team formation and modifications as needed. The match scheduling module allows admins to set up fixtures, assign stadiums, and designate referees. Score updates and result recording ensure that match data is accurately stored and reflected in the system. Once a match result is entered, the system automatically updates the points table and team rankings, reducing manual intervention and ensuring fairness in rankings.

Additionally, the system provides a comprehensive platform for users to track league progress. The User Interface allows players, fans, and other stakeholders to view updated match results, team standings, and player statistics in real time. By automating data management and providing a structured interface, the LMS ensures smooth league operations with minimal administrative burden.

**2.3 User Characteristics**

**Admins** manage player registrations, team formations, and match scheduling while ensuring league policies are followed. They oversee score updates and ranking calculations to maintain fair competition and an organized system.

**Team Managers** handle team rosters, update player details, and manage team strategy. They ensure proper team coordination and communicate updates regarding player transfers and team structures within the system.

**Users**, including players and fans, access the platform to track team performance, view match schedules, and check player statistics. They stay updated with live rankings and match results through an interactive interface.

**2.4 Constraints**

**Admins** have exclusive rights to modify player and team data. They must ensure the accuracy of match details and rankings while adhering to system limitations on manual overrides and access permissions.

**Team Managers** can only update or remove players within their assigned teams. They are restricted from modifying league-wide settings or altering match schedules beyond their own team’s participation.

**Users** have read-only access to match results, team rankings, and player statistics. They cannot edit or update any system data, ensuring the integrity of league operations and preventing unauthorized modifications.

**2.5 Assumptions and Dependencies**

The application will be deployed on a cloud server or a local environment. PostgreSQL will be used as the primary database, and the system will be built using Node.js with Express.js.